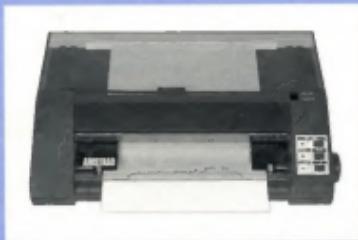


# AMSTRAD



**DMP2000 / DMP3000  
DMP4000  
PRINTER  
SERVICE MANUAL**

**DMP2000/3000 SECTION ONLY.  
FOR DMP4000 SEE PAGES 13 ONWARDS**

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**TECHNICAL SPECIFICATION**

	DMP2000	DMP3000
Print System:	Impact Dot-Matrix	Impact Dot-Matrix
Print Speed	105 CPS max	105 CPS (normal character) 52 CPS (double width character)
Printing Characteristics (vertical x horizontal)	9 x 9 (normal character) 9 x 10 (expanded character) 9 x chosen amount (9 pin bit-image) 96 characters ASCII + international character sets	9 x 9 (normal character) 9 x 10 (double width character) 6 x chosen amount (bit-image) 9 x chosen amount (9 pin bit-image) 96 characters ASCII + italics + international character sets 2.1 (width) x 2.55 (height) mm
Normal Character Size		
Print Sizes		
Standard (Pica)	10 CPI/80 CPL	10 CPI/80 CPL
Mini (Elite)	12 CPI/96 CPL	12 CPI/96 CPL
Condensed	17 CPI/137 CPL	
Double Width Standard	5 CPI/40 CPL	5 CPI/40 CPL
Double Width Mini	6 CPI/46 CPL	6 CPI/46 CPL
Double Width Condensed	8.5 CPI/68 CPL 60 (Standard) 40 (Double Width) 132 (Condensed) 66 (Double Width Condensed)	6.5 CPI/68 CPL 60 (Standard) 40 (Double Width) 132 (Condensed) 66 (Double Width Condensed)
Number of Columns		
Line Feed Rates	1/6 inch 1/6 inch 7/72 inch n/21.6 inch programmable n/72 inch programmable	1/6 inch 1/6 inch 7/72 inch n/21.6 inch programmable n/72 inch programmable
Line Feed Speed	200 mS(1/6 inch)	200 mS(1/6 inch)
Paper Type	4.5 to 10 inches fan-fold (tractor feed) 4 to 9.5 inches cut sheet or roll paper (friction feed)	4.5 to 10 inches fan-fold (tractor feed) 4 to 9.5 inches cut sheet or roll paper (friction feed)
Number of Copies	2 sheets (including original) 40 gsm pressure-sensitive paper train	2 sheets (including original) 40 gsm pressure-sensitive paper train
Interface	Parallel (Centronics compatible)	Parallel (Centronics compatible)
Ink Ribbon	Cassette (1 million characters life per ribbon)	Cassette (1 million characters life per ribbon)
Dimensions	380 (w) x 100 (h) x 260 (d) mm	400 (w) x 250 (d) x 100 (h) mm
Weight		4.2Kg
Mains Supply	220-240V AC 50Hz	220-240V AC 50Hz

**SAFETY TEST**

**PLEASE NOTE:** When any work is completed on this unit, correct safety tests must be carried out to ensure continued electrical safety.

**PLEASE NOTE:** All parts shown with the part number prefix  are Safety items and must be replaced with similar items having an identical safety specification.

All of these items may be purchased direct from AMSTRAD PLC.

## Interface

PIN	DESIGNATION	I/O	DESCRIPTION	PIN	DESTINATION	I/O	DESCRIPTION
1	DATA STRBSE	IN	Taking pin low enables receiving of DATA 0 to DATA 7. Minimum necessary pulse width is 5 µS.	14	NC		
2	DATA 8 (LSB)	IN	8-bit data signal. Taking pin high or low corresponds to 1 and 0 respectively.	15	NC		
3	DATA 1			16	DV		
4	DATA 2			17	CHASSIS GND		
5	DATA 3			18	+5V	OUT	+5V (50mA max) power supply output
6	DATA 4			19	GND		Signal ground
7	DATA 5			20	GND		Signal ground
8	DATA 6			21	GND		Signal ground
9	DATA 7 (MSB)			22	GND		Signal ground
10	ACKNOWLEDGE	DUT	Active low output pulse generated when data entry and processing are completed. After this signal, subsequent data will be accepted. This signal is also generated when changing from off line to on line.	23	GND		Signal ground
11	BUSY	DUT	Output high under any of the following conditions: a. Going off line. b. Paper feed or printing operation. c. When a control code is received.	24	GND		Signal ground
12	PE	DUT	Output high when paper is out. (When on line, paper out is sensed after executing a paper feed command. When off line, paper out is always sensed.)	25	GND		Signal ground
13	SELECT	DUT	On line and off line correspond to high and low respectively. When off line, DATA 8 to DATA 7 are not receivable.	26	GND		Signal ground
				27	GND		Signal ground
				28	GND		Signal ground
				29	GND		Signal ground
				30	GND		Signal ground
				31	INPUT PRIME	IN	Taking pin low initialises printer Minimum necessary pulse width is 100µS
				32	FAULT	DUT	Output low when off line
				33	GND		
				34	NC		
				35	+5V	OUT	

### DIP switch settings

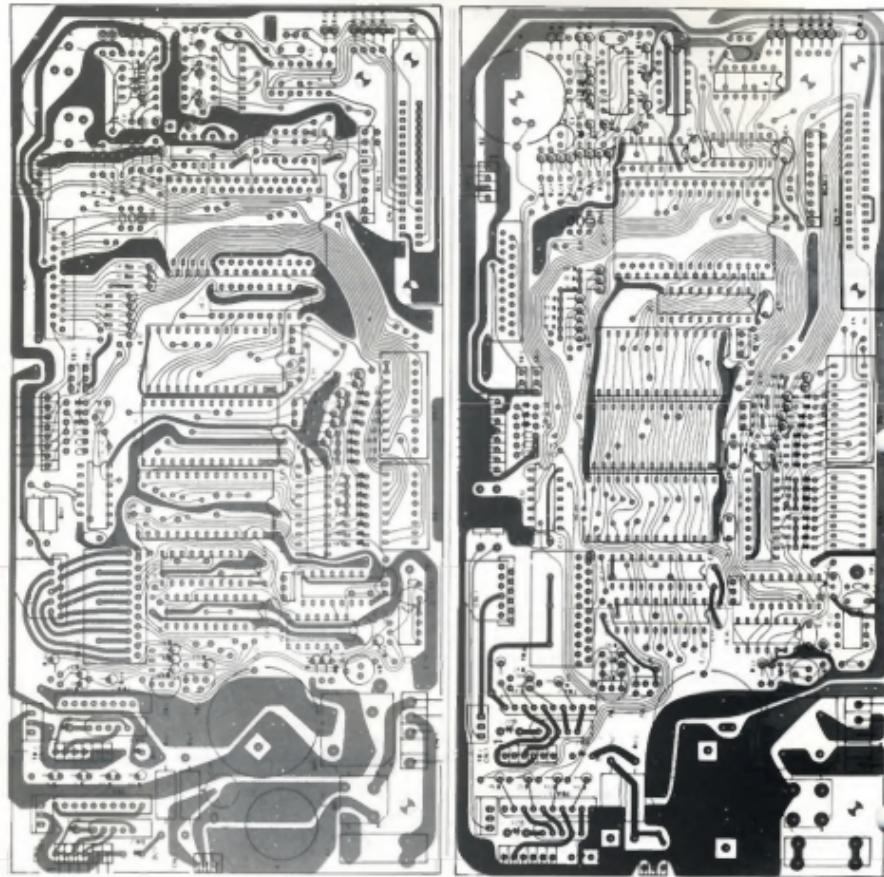
Described below is how to adjust DIP switches DS1-1, DS1-2 and DS1-3 to select one of the international character sets. The following table indicates the functions of the remaining DIP switches:

SWITCH	FUNCTION	OFF	ON
DS1-1	International characters	See Chapter 2	See Chapter 2
DS1-2	International characters	See Chapter 2	See Chapter 2
DS1-3	International characters	See Chapter 2	See Chapter 2
DS1-4	CR function	CR only	CR & LF
DS1-5	Paper out sensor	Enable	Disable
DS1-6	Page length	11 inch	12 inch
DS1-7	Code unit	8 units	7 units*
DS1-8	Default character set	Standard	NLD-Standard
DS2-1	Zero character	Unslashed	Slashed
DS2-2	Default skip perforation	Disable	Enable
DS2-3	Buffer mode	Character	Graphics
DS2-4	Buffer mode	Character/graphics	Download
DS2-5	SLCT IN signal	Not sent	Automatically sent
DS2-6	Alarm beeper	Disable	Enable
DS2-7	Default typeface	Bold off	Condensed & Bold on
DS2-8	Default typeface	Condensed off	Bold on
DS2-9	Do not use		
DS2-10	Do not use		

\* Set DS1-7 ON when using the printer with an Apple computer.

**REMEMBER** – Always switch the printer off before adjusting the DIP switches.

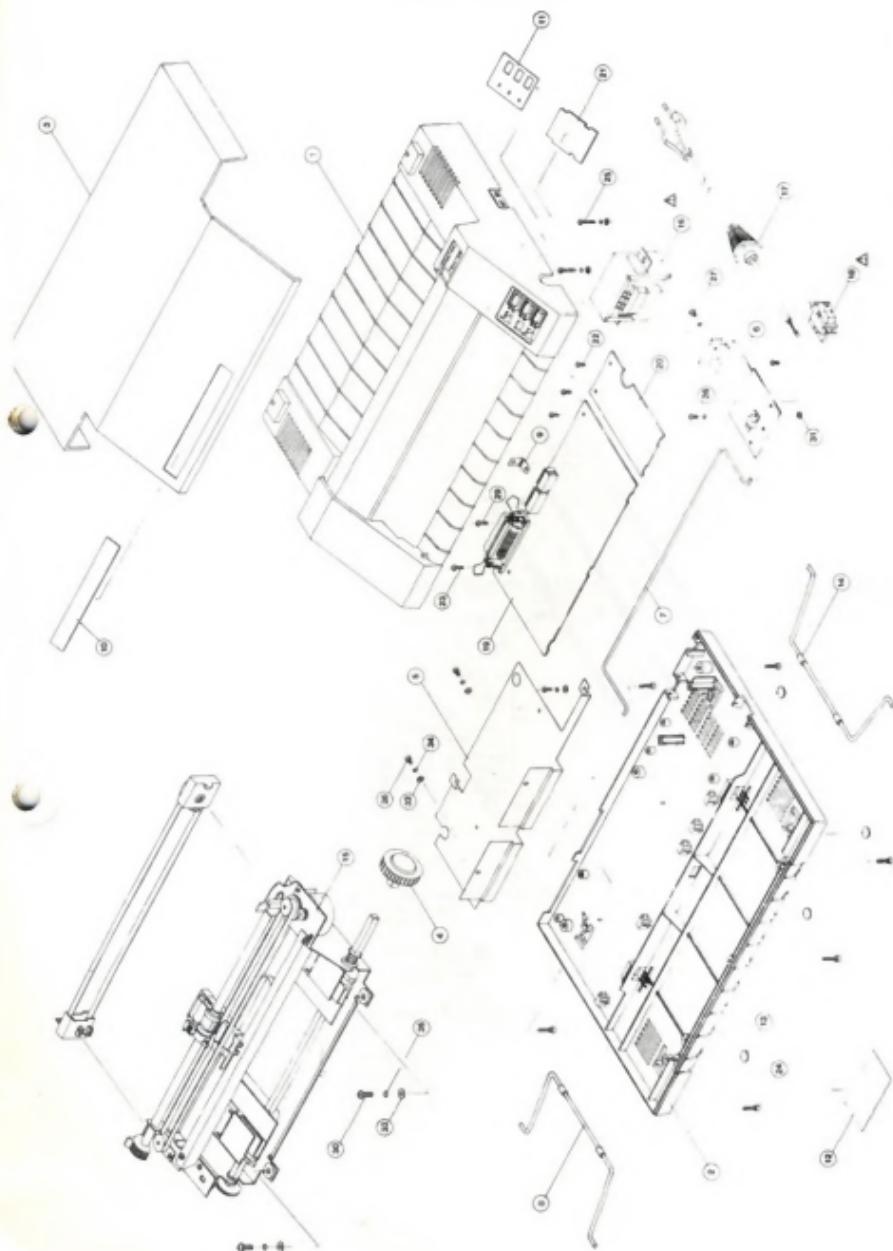
## CONTROL P.C.B.'S



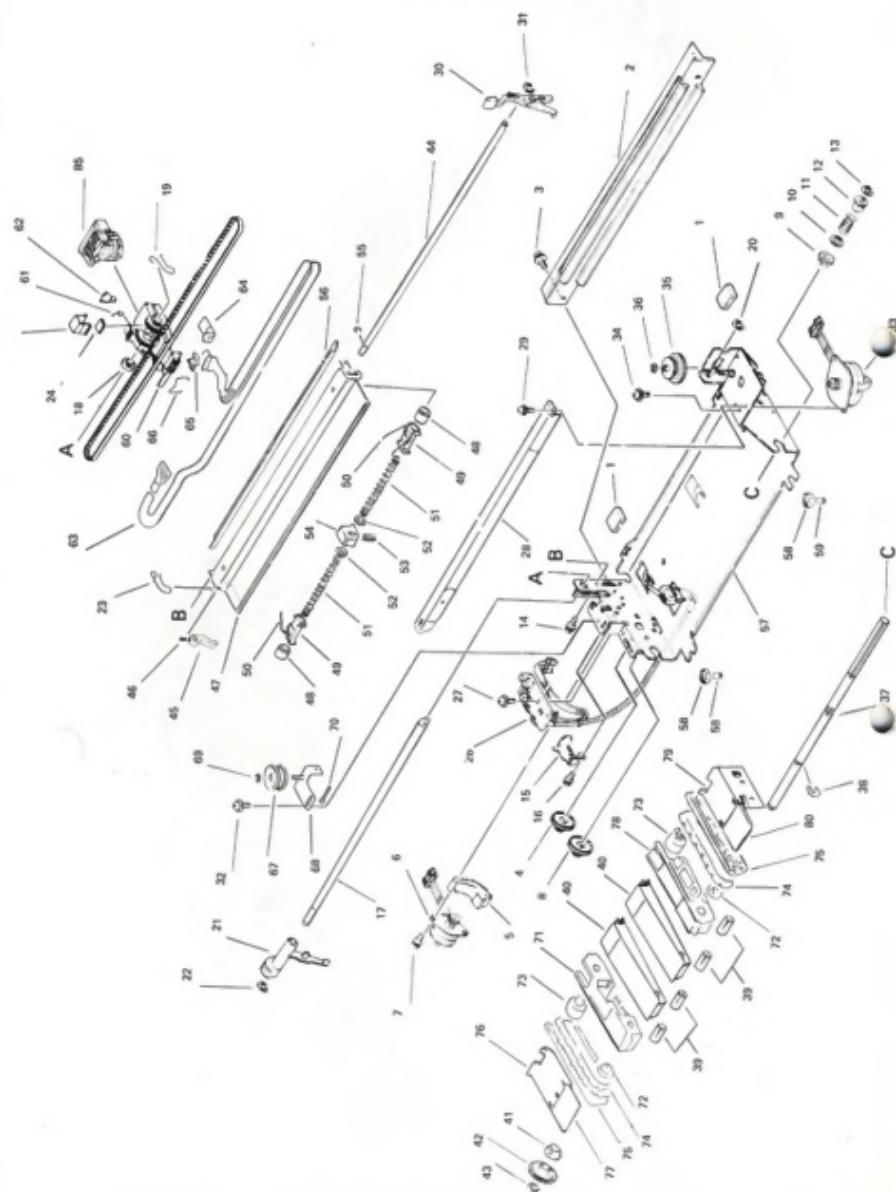
CABINET PARTS LIST

Sym	Description	DMP2000	DMP3000
1	Top Cabinet	190701	190851
2	Bottom Cabinet	190702	190852
3	Dust Cover	190703	190850
4	Rotary Knob	190704	190853
5	Shield Plate	190705	
6	Heat Sink		
7	Paper Guide	190706	190708
8	Metal Leg	190707	190707
9	Earth Tag		
10	Name Plate	190708	190858
11	Function Inlay	190709	190855
12	Bottom Inlay	190710	190854
13	Rubber Foot Dia 10x1.8mm	190711	190711
14	Rubber Ring		
15	Printer Mechanism	190712	190712
16	Mains Transformer	190713	190713
17	AC Power Cord BS Lead 3 Core 6'		
18	Power Switch 2Pit SDE3GE		
19	PCB Main	190714	190714
20	PCB AC		
21	PCB LED		
	Printer Ribbon	SOFT06049	SOFT50015
	Printer Cable - PL2		

CABINET DRAWING



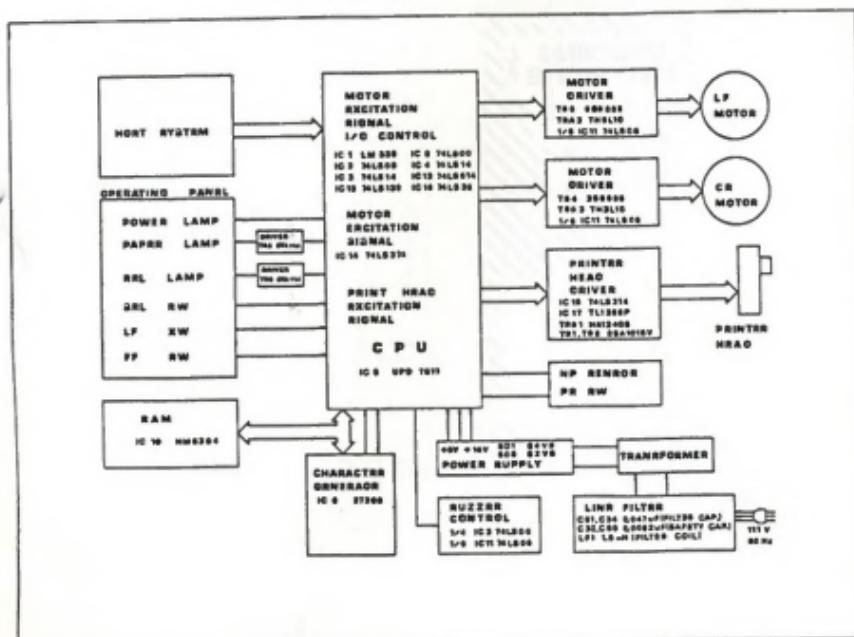
## PRINTER MECHANISM

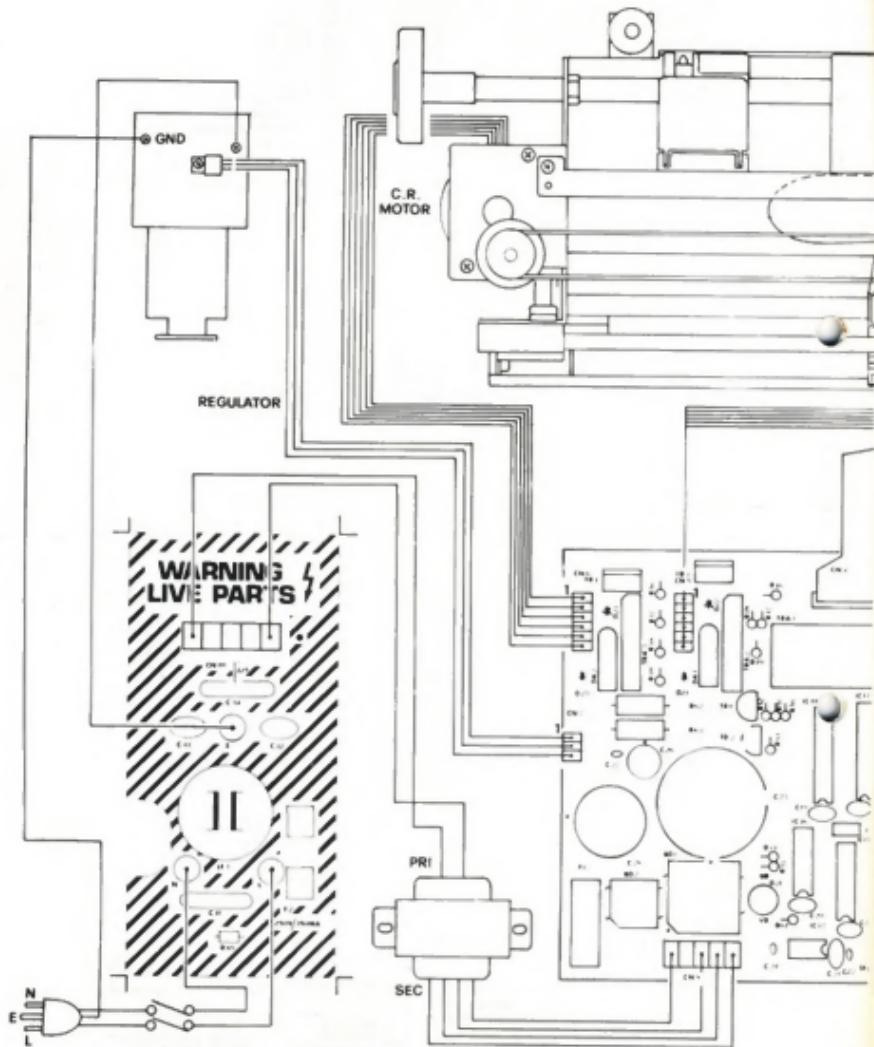


## PRINTER MECHANISM PARTS LIST

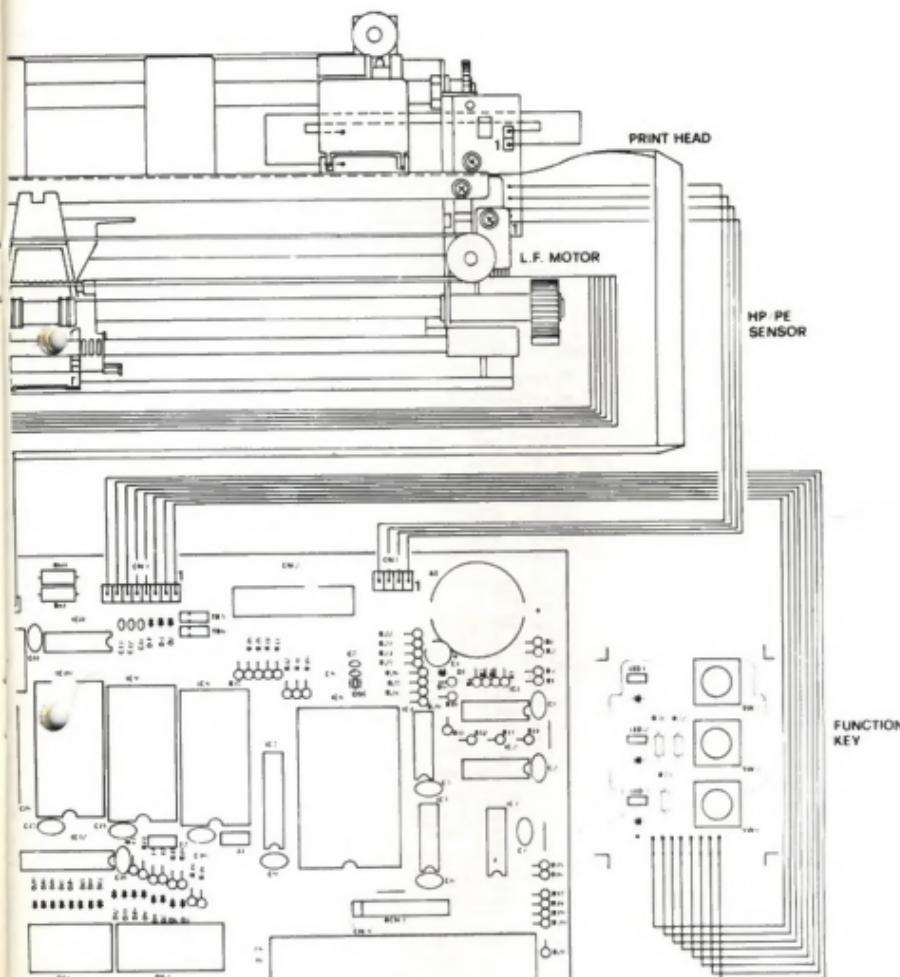
Sym	Description	Part No.
1	Damper R	190748
2	Set Plate	190749
4,8	LF gear	190750
5	LF Heat Sink	190751
8	Set LF Motor	190752
9	Bush	190753
10	Poly Slider	190754
11	LF Spring	190755
12	LF Collar	190756
13	E Ring E-6	190757
15	Clip Plate	190758
17	Set CR Shelf	190759
18	Felt Ring	190760
19	CR Spring R	190761
20	E Ring E-4	190762
21	Gap Lever	190763
23	CR Spring L	190764
24	Upper Fall	190765
25	Upper Spring	190766
26	Sensor Assy.	190767
28	Set Guide Frame	190768
30	Release Lever	190769
31	E Ring E-3	190770
33	Set CR Motor	190771
35	Set CR Gear	190772
36	E Ring E-2	190773
37	LF Shaft	190774
38	C Ring	190775
39	Tractor Stopper	190776
40	Paper Guide	190777
42	LF Shaft Gear	190778
44	Roller Shaft	190779
45	S Release Lever	190780
46	Screw M3x6	190781
47	Sub Frame	190782
48	Set Roller	190783
49	SP Bracket	190784
50	Roller Spring	190785
51	Guide Spring	190786
52	Washer	190787
	Guide Spring-B	190788
	Centre Guide	190789
	Paper Prass	190790
	Set Base	190791
	Damper F	190792
	Damper Collar	190793
	Set Carriage	190794
	Stopper Spring	190795
	Ribbon Stopper	190796
	Set FPC	190797
	Cable Clamp	190798
	Pressure BD	190799
	Pressure Spring	190800
	ADJ Pulley	190801
	Set ADJ. Plate	190802
	Tractor L	190803
	Main Sprocket	190804
	Set Feed Roller	190805
	Pin Belt	190806
	Tractor Plate	190807
	Tractor Cover L	190808
	Cover Plate L	190809
	Tractor R	190810
	Tractor Cover R	190811
	Cover Plate R	190812
	Print Head With	190813
	Ribbon Mask	
	Printer Ribbon	SOFT08049

## RMP2000/3000 BLOCK DIAGRAM

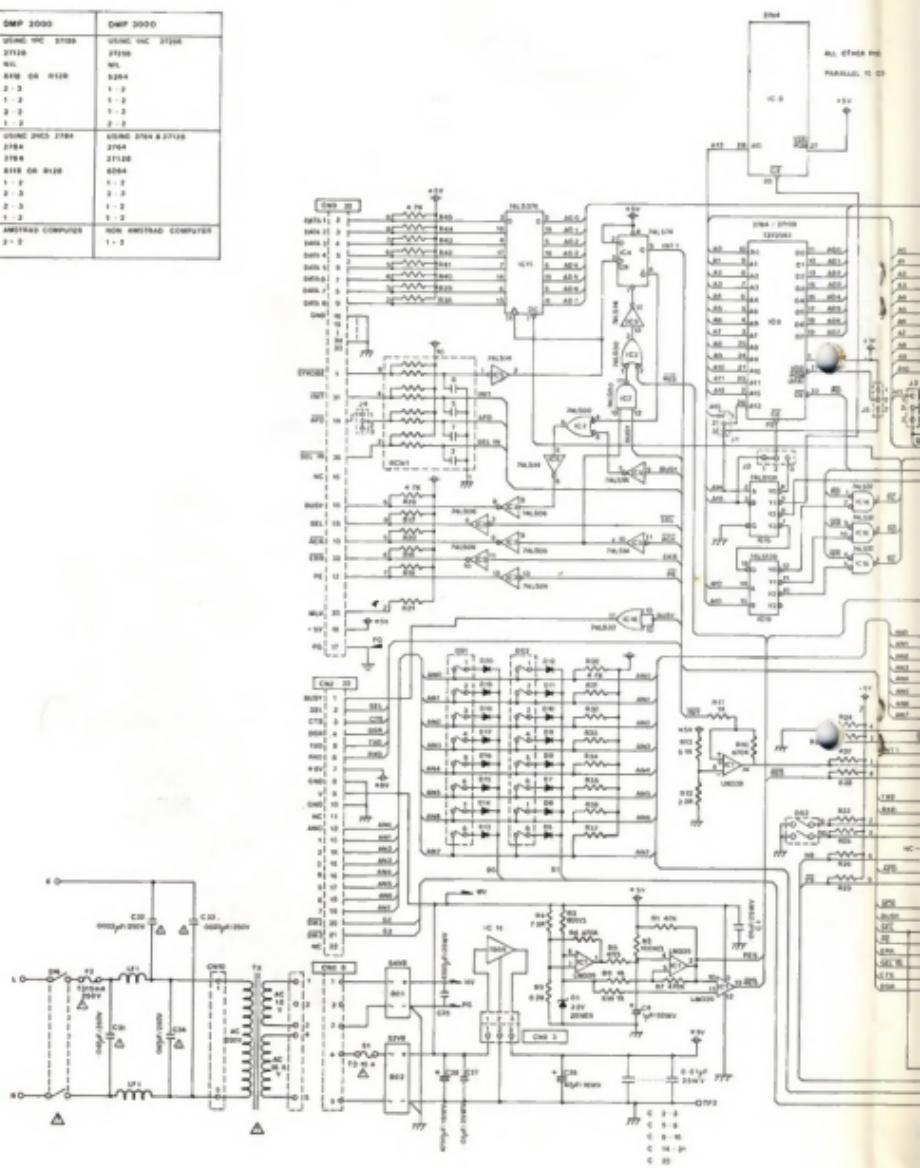




## WIRING DIAGRAM

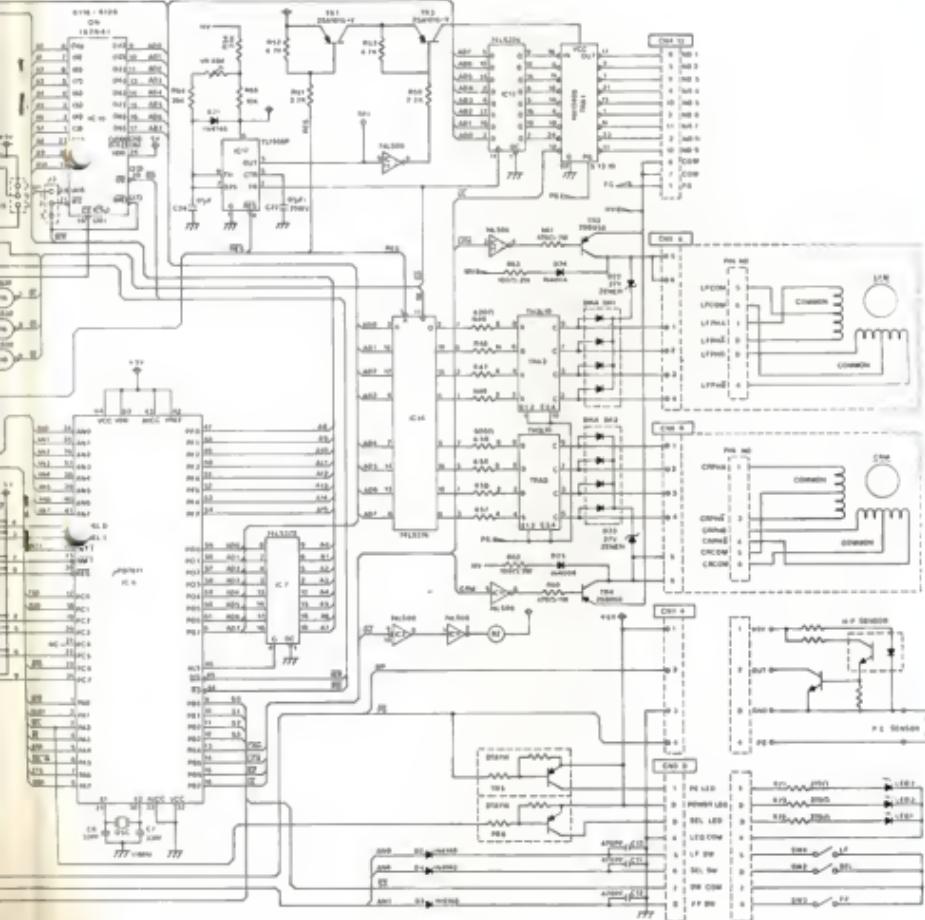


	<b>DMP 2000</b>	<b>DMP 3000</b>
USING INC. ST/208	ST/2108	USING INC. ST/2108
E/C 8	ST/120	ST/110
E/C 9	W/L	W/L
E/C 10	SH/R 04 R12R	SH/R4
Z 1	2 - 3	1 - 2
Z 2	2 - 3	1 - 2
Z 3	2 - 3	1 - 2
Z 4	2 - 3	1 - 2
Z 5	2 - 3	1 - 2
Z 6	2 - 3	1 - 2
USING INC. ST/2104	ST/2104	USING INC. ST/2112B
E/C 9	ST/84	ST/120
E/C 10	SH/R 04 R12R	SH/R4
Z 1	2 - 3	1 - 2
Z 2	2 - 3	1 - 2
Z 3	2 - 3	1 - 2
Z 4	2 - 3	1 - 2
Z 5	2 - 3	1 - 2
Z 6	2 - 3	1 - 2
AMSTRAD COMPUTER	AMSTRAD COMPUTER	AMSTRAD COMPUTER
Z 1 - 2		1 - 2



# 00 CIRCUIT DIAGRAM

PAGE  
00



# ELECTRICAL PARTS LIST

Circ. Ref.	Description	Part No.
<b>IC's</b>		
IC1	LM339/HA17339	190724
IC2	HD74LS00P	190725
IC3, 11	MB74LS00	190729
IC4	HD74LS74AP	40014
IC5	HD74LS14P	190730
IC6	uPD7611G-071	190733
IC7	HD74LS373P	170106
IC8	HN4827126G-25 50nS	190722
IC10	MB8126-15	190723
IC12-14	HD74LS374P	190727
IC15, 16	HD74LS139P	190726
IC17	HA17555	190725
TRA1	HA13408	190614
TRA2, 3	TH3L10	190734
IC18	L7805CY	190731
<b>Transistors</b>		
TR1, 2	2SA1015 Y	170453
TR3, 4	2SB858B	190721
TR5, 6	DTA114E	151096
<b>Diodes</b>		
D1	Zener Diode 3.3V DC	190719
D2-22	Sig Diode IN4148	190715
D23	Zener Diode 27VDC	190720
D24, 25	IN4004	190716
BD1	Bridge Rect S4VB10	190718
BD2	Bridge Rect S2VB10	190717
DA1, 2	Diode Array D1CA	190815
LED1, 2	LED Grn TLG211	190744
LED 2	LED Red TLR211	190743
<b>Miscellaneous</b>		
DS1	8 Way Dip Switch N/O	190737
DS2	10 Way Dip Switch N/O	190738
SW1	Power Switch 2Pit	190714
SW2-4	P/B Tact Switch 1 Pit	190739
TX	Mains Transformer BS	190713
LF1	Mains Filter Coil	190740
BZ	Piezo Beeper	190736
OSC	Ceramic Resonator 11MHz	190742
VR	Semifixed Resistor 68 ohm	190745
RCN1	RC Network T002	190732
<b>Resistors</b>		
Desc.	Circ. ref.	Part No.
47ohm	R5	10020
62 ohm	R3	10031
330ohm	R7, 72, 73	10044
620ohm	R46-49, 56-59	190616
1kohm	R8, 11, 14	10061
2.2kohm	R12, 50, 51	10069
4.7kohm	R15-22, 24-45, 52, 53	10077
5.1kohm	R13	190817
6.2kohm	R9	190818
7.5kohm	R4	190819
10kohm	R55	10085
27kohm	R54	10095
39kohm	R64	10099
47kohm	R1	10101
100kohm	R2	10109
470kohm	R6, 7, 10	10131
100ohm/2W	R62, 63	190820
470ohm/1W	R60, 61	190821
<b>Ceramic Capacitors</b>		
33pF	C7, 8	150514
470pF	C11-13	190822
0.01uF	C22, 27	24011
<b>Mono Glass Capacitors</b>		
0.1uF/50V DC	C1-3, 5, 6, 9, 10, 14-21, 23	190823
<b>Mylar Capacitors</b>		
0.01uF	C24	2f006
<b>Electrolytic Capacitors</b>		
1uF/50V	C1, 4	20062
47uF/18V	C26	20049
4700pF/16V	C28	150479
<b>Polystyrene Capacitors</b>		
0.0022uF/250V	C32, 33	190824
0.047uF/250V	C31, 34	190825

## DMP4000 SECTION

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### SAFETY TEST

**PLEASE NOTE:** When any work is completed on this unit, correct safety tests must be carried out to ensure continued electrical safety.

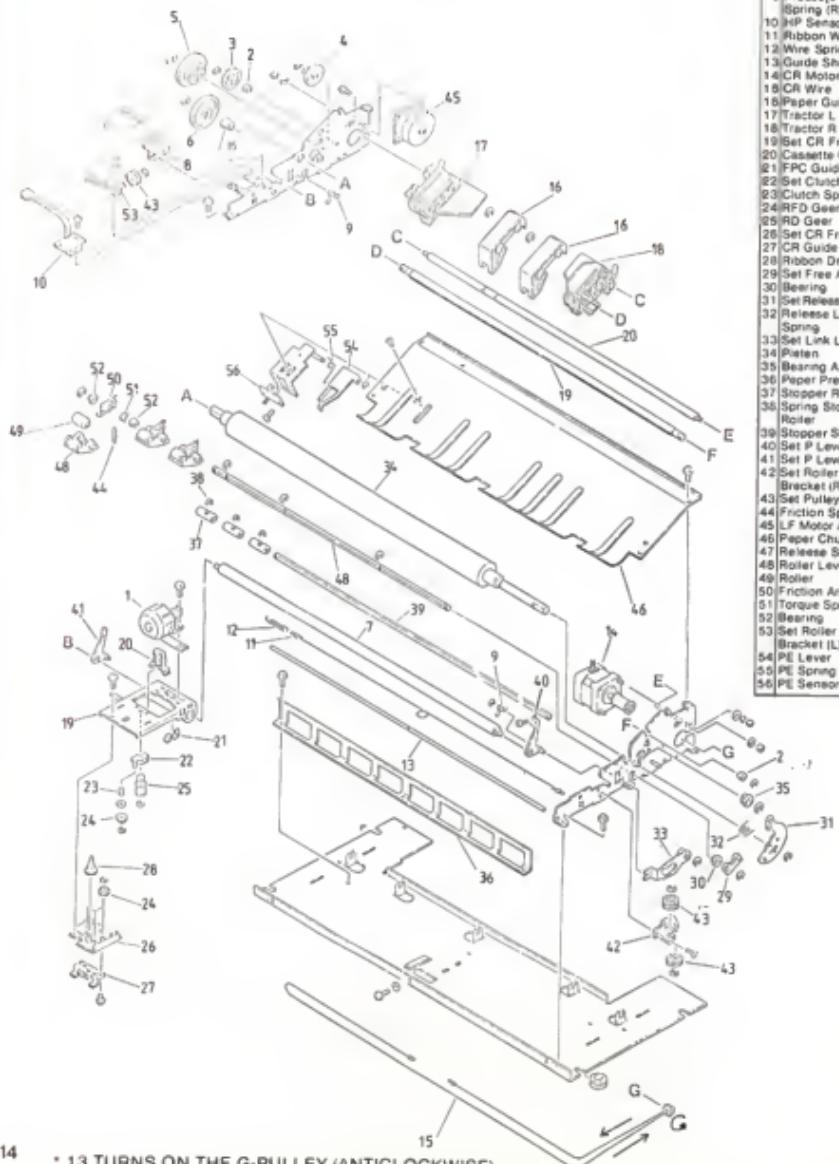
**PLEASE NOTE:** All parts shown with the part number prefix  are Safety Items and must be replaced with similar items having an identical safety specification.

All of these items may be purchased direct from AMSTRAD PLC.

Print system:	Wire dot-matrix	Line feed rates:	1/6 inch 1/8 inch 7/72 inch n/72 inch programmable n/216 inch programmable
Print speed:	200 CPS (standard) 50 CPS (NLO)	Line feed speed:	100 mS (1/6 inch)
Printing characteristics (vertical x horizontal):	9 x 9 (ASCII characters - table 1) 18 x 9 (ASCII characters - table 2) 12 x 11 (special characters - tables 3.1 and 3.2) 24 x 11 (special characters - tables 4.1 and 4.2) 8 x chosen amount (bit-image graphics)	Paper type:	Tractor feed (fan fold) - 3 to 16½ inches (75 to 420 mm) Friction feed (cut sheet or roll) - 2 to 15½ inches (50 to 395 mm)
Characters:	ASCII - 96 Italics - 96 NLO - 96 NLQ/italics - 96 International character sets - 9 Special characters - 132	Interface:	Parallel (Centronics compatible)
Print sizes:	Standard (Pica) - 10 CPI / 136 CPL Mini (Elite) - 12 CPI / 163 CPL Condensed - 17 CPI / 233 CPL	Mains supply:	220-240 Volts AC 50 Hz
Number of columns:	136 (standard) 233 (condensed)	Dimensions:	24 (width) x 14 (depth) x 5 (height) inches (600 x 350 x 120 mm)
		Weight:	9.5 kg

**MECHANISM  
PARTS LIST**

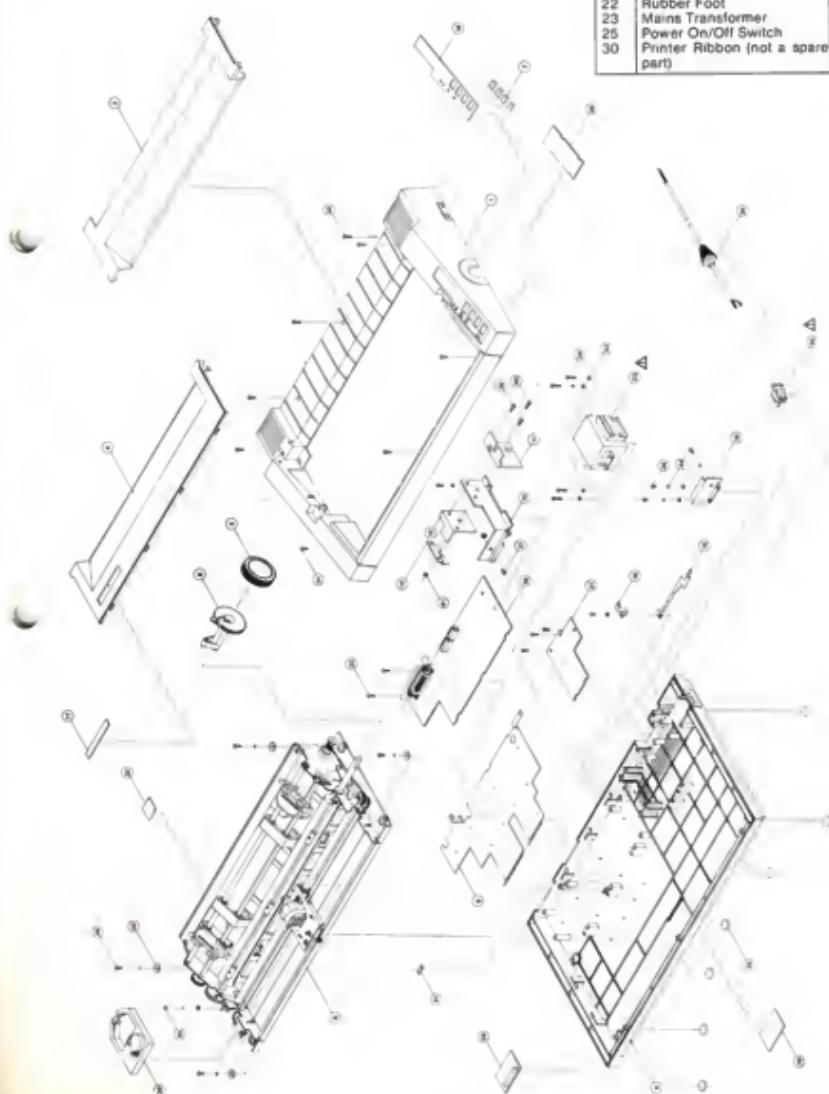
**PRINTER MECHANISM  
EXPLODED VIEW & PARTS LIST**



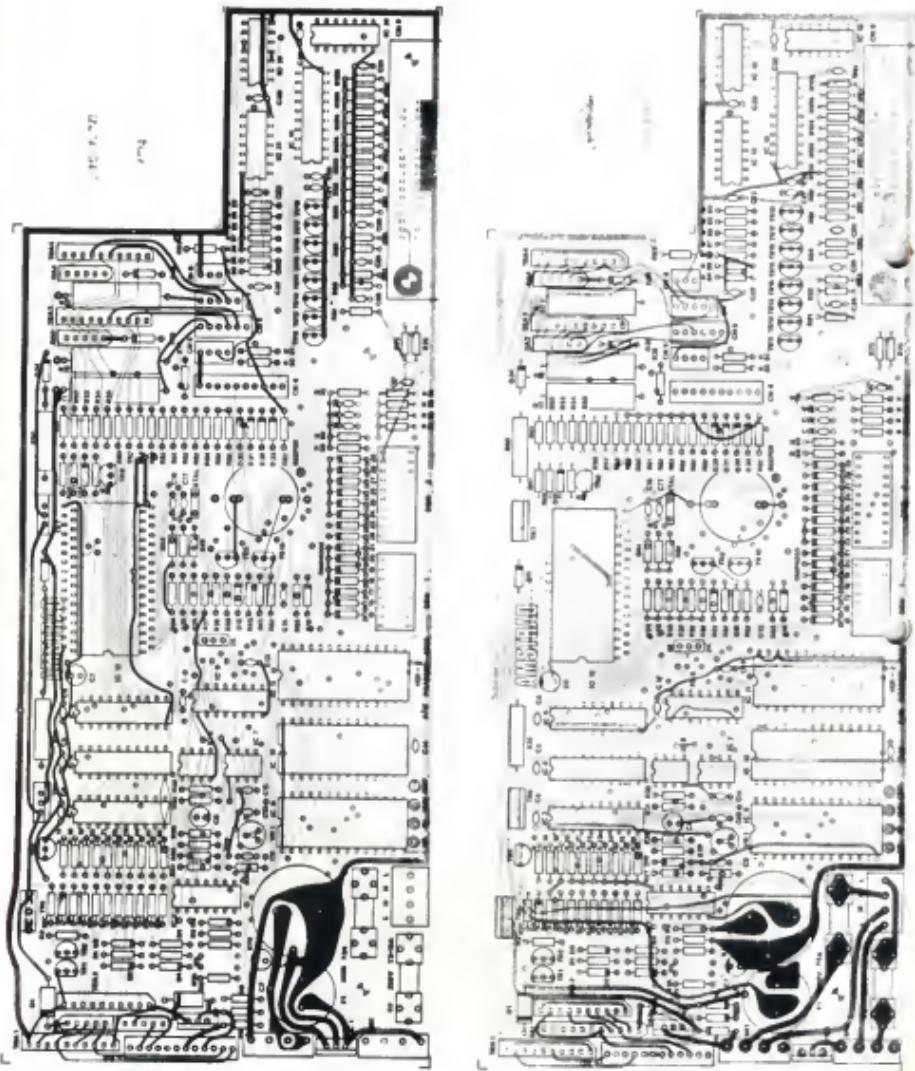
### CABINET PARTS LIST

Sym	Description	Part No.
1	Top Cabinet	190936
2	Bottom Cabinet	190937
3	Upper Dust Cover	190934
4	Lower Dust Cover	190935
5	Rotary Knob	190941
6	Roller Release Knob	190942
7	Push Button	190940
8	Printer Mechanism	190929
17	Name Plate	190946
18	Function Inlay	190944
19	Bottom Inlay	190943
22	Rubber Foot	190945
23	Mains Transformer	190931
25	Power On/Off Switch	190920
30	Printer Ribbon (not a spare part)	SOFT 50015

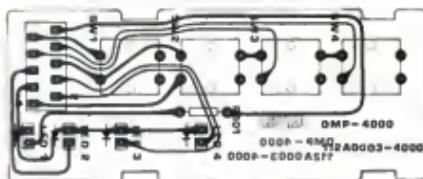
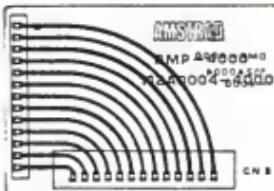
### CABINET DRAWING



## COMPONENT LAYOUTS



PCB LAYOUTS



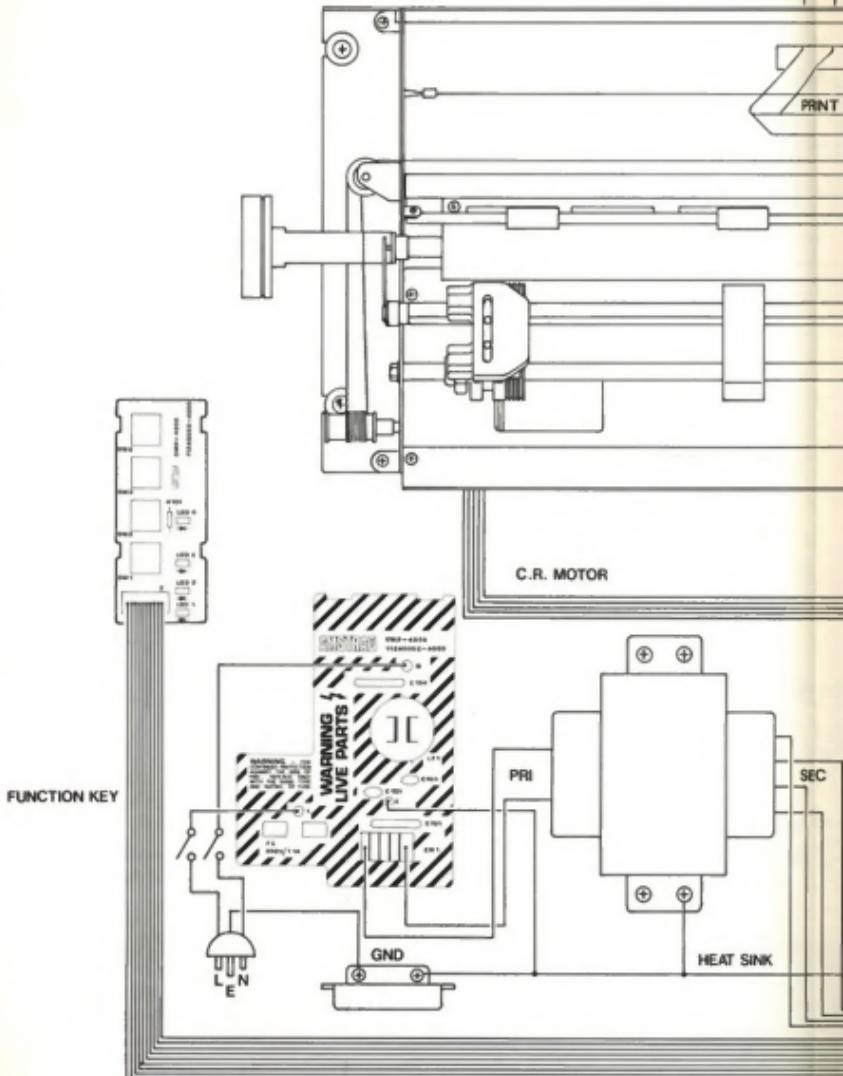
**DMP4000**  
**ELECTRICAL PARTS LIST**

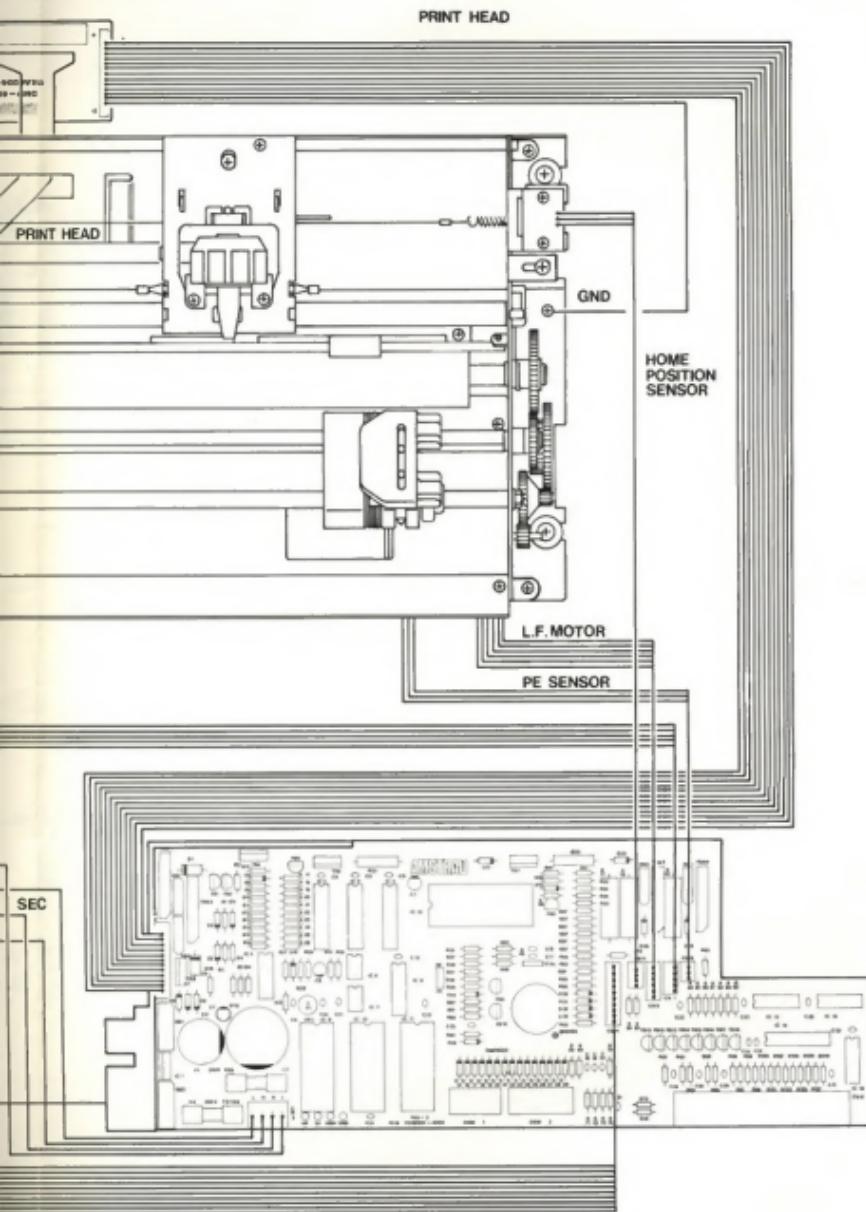
Ref. No.	Description	Part No.	Description	Ref. No.	Part No.
<b>IC's</b>					
IC6	IC LM393	190900	Resistors	R43	10012
IC7	IC NE555	190901	180hm	R112, 113, 116	10040
IC8	IC 74LS139	190722	220ohm	R41	10044
IC3	IC 74LS273	190903	330ohm	R79-81, 201	10048
IC4	IC 74LS373	170108	470ohm	R92, 94	10052
IC14	IC 74LS374	190727	680ohm	R1, 9-16, 51-58	10061
IC5	IC 74LS377	190904	1kohm	R3, 18, 42, 45, 47, 87-74, 78, 87-90,	10069
IC15	IC 74LS00	190728		93, 96-108	
IC2	IC 74LS02	190905	2k2ohm	R4, 19-27, 59-66	10077
IC13	IC 74LS14	190730	4k7ohm	R8, 17, 34-39, 40, 44, 46, 48, 49,	10078
IC18	IC 74LS74	40014		75, 76, 83-86, 91, 95, 110, 115	
IC1	IC Regulator 7805	190731	5k1ohm	R5, 28	10081
IC10	IC UPD7811	190733	6k8ohm	R29, 114	10085
IC9	IC EPROM 258K 250ns	190857	10kohm	R31, 70	10091
IC11	IC S.RAM 6284-15	190858	18kohm	R6	10093
	IC 28 Way Socket	190506	22kohm	R7A, 111	
<b>Transistors</b>					
TR1, 2, 5, 8, 9, 11-18	TR 2SC3658	190908	51kohm	R30	10102
TR4	TR 2SB882	190909	470kohm	R32	10125
TR6, 7	TR 2SB886	190910	7.5ohm/3W	R77, 78	10155
TR3	TR 2SD1196	190911	22ohm/2W	R50	191056
TRA1-4	TR Array TH3L10	190734	38ohm/2W	R33	191057
PH1, 2	TR SP5218	191046			
TR20	TR DTC114N	191047			
TR19	TR 2SC1815	170447			
<b>Diodes</b>					
D2-4, 9, 12-33	D IN4148	190715	Ceramic Capacitors	C16, 17	150511
D6, 7, 11, 34	D IN4004	190716	100pF	C11	24016
BR1, 2	D Bridge Rect. KBL02	190912	470pF	C24, 25, 27, 31	24004
D10	D Zener 3.3V 0.5W	190913	0.001uF	C9, 18-21	24027
D35, 38	D Zener RD47F 47V	190915	0.01uF	C10	24011
D1, 5, 8	D Zener IN6275	190916	0.22uF/250V	C102, 103	191058
DA1-4	D Array DICA20	190917	0.047uF/250V	C101, 104	191059
LED1, 2	LED Red	190928	0.1uF	C4-8, 12-14, 22, 23, 26, 28-30	24020
LED3, 4	LED Green	190927			
<b>Switches</b>					
SW	Mains Switch	▲190920			
DSW1	Dip Switch 8 Way	190737			
DSW2	Dip Switch 10 Way	190738			
SW1-4	Tact Switch	190921			
<b>Electrolytic Capacitors</b>					
			1uF/50V	C8	20082
			10uF/16V	C7	20024
			4700uF/18V	C2	150479
			8800uF/C3		191060

Circ. Ref.	Description	Part No.
<b>Miscellaneous</b>		
LF1	Filter Coil 1.3mH	190918
X Tel	11 MHz Ceramic Resonator	190919
VR1	Semi Fixed Resistor 68kohm	190928
	Piezo Beeper	190736
	Printer Cable - PL2	190947
	Instruction Book	190948
	36 Way Connector	190949
	Fuse T1A 250V	▲190959
	Fuse T5A 250V	■190980
	Fuse T3.15A 250V	■190980
		S/88150



PRINT





## CIRCUIT DIAGRAM

